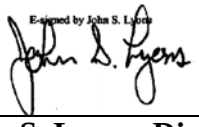
Commonwealth of Kentucky
Energy and Environment Cabinet
Department for Environmental Protection
Division for Air Quality
200 Fair Oaks Lane, 1st Floor
Frankfort, Kentucky 40601
(502) 564-3999

AIR QUALITY PERMIT

Issued under 401 KAR 52:040

Permittee Name:	**T.RAD North America, Inc.**
Mailing Address:	**750 Frank Yost Lane, Hopkinsville, KY 42240**
Source Name:	**T.RAD North America, Inc.**
Mailing Address:	**750 Frank Yost Lane** **Hopkinsville, KY 42240**
Source Location:	**750 Frank Yost Lane**
Permit ID:	**S-09-005**
Agency Interest #:	**758**
Activity ID:	**APE20080001**
Review Type:	**Minor Source, Operating**
Source ID:	**21-047-00102**
Regional Office:	**Paducah Regional Office** **130 Eagle Nest Drive** **Paducah, KY 42003** **(270) 898-8468**
County:	**Christian**
Application Complete Date:	**January 9, 2009**
Issuance Date:	**February 4, 2009**
Revision Date:	
Expiration Date:	**February 4, 2019**



John S. Lyons, Director
Division for Air Quality

Revised 05/07/07

SECTION A - PERMIT AUTHORIZATION

Pursuant to a duly submitted application the Kentucky Division for Air Quality hereby authorizes the operation of the equipment described herein in accordance with the terms and conditions of this permit. This permit has been issued under the provisions of Kentucky Revised Statutes Chapter 224 and regulations promulgated pursuant thereto.

The permittee shall not construct, reconstruct, or modify any affected facilities without first submitting a complete application and receiving a permit for the planned activity from the permitting authority, except as provided in this permit or in 401 KAR 52:040, State-origin permits.

Issuance of this permit does not relieve the permittee from the responsibility of obtaining other permits, licenses, or approvals that may be required by the Cabinet or other federal, state, or local agencies.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

EP # 01 Electric Brazing Furnace #1, Two (2) N.G. Fired Dry-off Ovens

Description: Aluminum radiators coated with powder flux and oil will go through dry off ovens and then enter the brazing oven. Isopropanol is used to assist manual application of flux/brazing process (on a very few models) that takes place in the large brazing oven.

Maximum Flux Usage Rate:	11.1 lbs/hr
Maximum Isopropanol Usage rate:	0.0104 gal/hr
Maximum Dry-off Ovens rated capacity:	2.0 MMBTU/hr
Construction commenced:	June 1999

Control Equipment: Moving Bed Dry Scrubber with 63% Efficiency

EP # 11 Electric Brazing Furnace #3, One (1) Dry-off Oven

Description: Radiators coated with powder flux and oil will go through dry off oven and then enter the brazing oven.

Maximum Flux Usage Rate:	6.65 lbs/hr
Maximum Dry-off Ovens rated capacity:	2.0 MMBTU/hr
Construction commenced:	June 1999

Control Equipment: Moving Bed Dry Scrubber with 63% Efficiency

EP # 13 Acom Brazing Furnace with (20) N.G. Fired Burners, Acom Degreasing Furnace with (2) N.G. Fired Burners, and Acom Drying Furnace with (3) N.G. Fired Burners

Description: Radiators coated with powder flux and oil will go through dry off oven and then enter the brazing oven. All EP13 burners are rated less than 1.0 MMBTU/hr.

Maximum Flux Usage Rate:	5.93 lbs/hr
Total Maximum Burners rated capacity:	6.94 MMBTU/hr
Construction commenced:	April 2005

Control Equipment: Moving Bed Dry Scrubber with 67% Efficiency

APPLICABLE REGULATIONS:

401 KAR 59:010, New Process Operation, is applicable to each affected facility or source, associated with process operations, which are not subject to another emission standard with respect to particulate matter emissions commenced after July 2, 1975.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

401 KAR 63:020, Potentially Hazardous Matter or Toxic Substances**,** applicable to the potentially hazardous matter and toxic substance emissions from affected facilities.

1. Operating Limitations:

The usage rates of materials used in all affected facilities shall be limited so as not to exceed the emission limitations in Section B (2).

2. Emission Limitations:

401 KAR 59:010

a. Section 3(1) limits visible emissions from each emission point to less than 20% opacity.

Compliance Demonstration Method:

The permittee shall perform a qualitative visual observation of the opacity of emissions from the affected facilities on a weekly basis and maintain a log of the observations. If visible emissions from the vents are seen (not including condensed water vapor within the plume) then the opacity shall be determined by Reference Method 9. If emissions are in excess of the applicable opacity limit, then an inspection shall be initiated of control equipment for all necessary repairs.

b. Section 3(2) limits total particulate matter emissions from each emission point to a maximum of 2.34 lbs/hr.

Compliance Demonstration Method:

The affected facilities are assumed to be in compliance with the particulate mass emissions as long as the control systems are operated and maintained in accordance with the manufacturer's specification and the control systems are in place at all times when the affected facilities are in operation.

401 KAR 63:020, Section 3

c. The permittee shall not allow any affected facility to emit potentially hazardous matter or toxic substances in such quantities or duration as to be harmful to the health and welfare of humans, animals and plants.

Compliance demonstration method:

The source is in compliance with 401 KAR 63:020. This compliance determination is based on the emission rates of HAPs given in the application submitted by the source. If the source alters process rates, material formulations, or any other factor that would result in an increase of HAP emissions or the addition of HAP emissions not previously evaluated by the Division, the source shall submit the appropriate application forms pursuant to 401 KAR 52:040, along with modeling to show that the facility will remain in compliance with 401 KAR 63:020.

3. Testing Requirements:

Testing shall be conducted at such times as may be required by the Cabinet in accordance with Regulations 401 KAR 59:005 Section 2(2) and 401 KAR 50:045 Section 4.

4. Specific Monitoring Requirements:

See Recordkeeping Requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

5. Specific Recordkeeping Requirements:

a. Monthly records shall be maintained of the total input of all raw materials (ex: Flux usage, and Natural Gas usage) and VOC emission calculations of each process unit at each emission point.

b. A log shall be kept of all emissions observations. Notification in the weekly log shall be made of, but not limited to the following:

(i) Whether any air emissions (except for water vapor) were visible from the plant.
(ii) Whether the visible emissions were normal for the process.
(iii) The cause of any abnormal emissions, and any corrective actions taken.

c. All records, including MSDS for each material used shall be retained at the source for a period of five years.

6. Specific Reporting Requirements:

Any exceedance of the emission limits as stated in this permit shall be reported to the Division as specified in the General Conditions Section C.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

EP # 04 9-Evaporative Oil Spray Lines
Description: Using MicroCoating applicators, mist of oil (AF-2A & Hydraw AL-1018) is sprayed on fins.

Maximum Operating Rate: 2.4 gals/hr
Construction commenced: June 1999

Control Device: None

EP # 05 Cleaning Line
Description: Aluminum parts are dipped in cleaner (Cleaner H-U) and cleaner runs back into tank.

Maximum Cleaner Usage: 0.244 gal/hr
Construction commenced: June 1999

Control Device: Solvent Recovery System with 68 % Efficiency

EP # 06 2-TUBE Mills
Description: Oil is sprayed on tubes as they are being welded.

Maximum Operating Rate: 0.102 gal/hr
Construction commenced: June 1999

Control Device: None

EP # 07 2-Finstock Oil Spray Lines
Description: Mist of oil (FF-1 & AF-2A) is sprayed on parts.

Maximum Operating Rate: 0.440 gal/hr
Construction commenced: June 1999

Control Device: None

EP # 14 Fin Machines
Description: Mist of oil (Hydraw AL-1018 & AF-2A) is sprayed on parts.

Maximum Operating Rate: 0.280 gal/hr
Construction commenced: April 2005

Control Device: None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

EP # 16 Tube Plate Forming Press and Electric Oven
Description: Parts are coated with oil (AF-4RZ-U & AF-2A) for forming.

Maximum Rated Capacity: 0.440 gal/hr
Construction commenced: May 2005

Control Device: None

APPLICABLE REGULATIONS: None

1. **Operating Limitations:**
   None

2. **Emission Limitations:**
   None

3. **Testing Requirements:**
   Testing shall be conducted at such times as may be required by the Cabinet in accordance with Regulations 401 KAR 59:005 Section 2(2) and 401 KAR 50:045 Section 4.

4. **Specific Monitoring Requirements:**
   See Recordkeeping Requirements.

5. **Specific Recordkeeping Requirements:**
   a. Monthly records shall be maintained of the total input of all raw materials (ex: oil usage and cleaners usage), the VOC percentage (by weight) or the VOC content, and emission calculations of each affected facility.
   b. All records, including MSDS for each material used shall be retained at the source for a period of five years.

6. **Specific Reporting Requirements:**
   None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

EP # 10 Sand Blasting Operation

Description: Aluminum oxide is used to shot blast material and dust is collected.

Maximum Aluminum Oxide Usage Rating:	1.18 tons/hour
Construction commenced:	February 2003
Control Equipment:	Cyclone with 90% Efficiency

APPLICABLE REGULATIONS:

401 KAR 59:010, New Process Operation, is applicable to each affected facility or source, associated with process operations, which are not subject to another emission standard with respect to particulate matter emissions commenced after July 2, 1975.

1. **Operating Limitations:**
   - **a.** Control system shall be in place and functional at all times of operation.
   - **b.** The usage rates of materials used in the affected facilities shall be limited so as not to exceed the emission limitations in Section B (2).

2. **Emission Limitations:**
   - **a.** Section 3(1) limits visible emissions from each booth to less than 20% opacity.
     Compliance Demonstration Method:
     Compliance is assumed when the particulate control system is in place and operating according to the manufacturer's recommendations, and the cyclone collects the particulate in a drum inside of the building.
   - **b.** Section 3(2) limits total particulate matter emissions from each booth to a maximum value that is calculated as $E = 3.59 \times P^{0.62}$, where E is the allowable emissions rate in lbs per hour and P is the aluminum ingot processing rate in tons per hour. For processing rates of 1000 lbs/hr or less, the allowable emission rate is 2.34 lbs/hr.
     Compliance Demonstration Method:
     The affected facility is assumed to be in compliance with the particulate mass emissions as long as the control system is operated and maintained in accordance with the manufacturer's specification and the control system is in place at all times when the affected facilities are in operation.

3. **Testing Requirements:**
   Testing shall be conducted at such times as may be required by the Cabinet in accordance with Regulations 401 KAR 59:005 Section 2(2) and 401 KAR 50:045 Section 4.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

4. Specific Monitoring Requirements:

See Recordkeeping

5. Specific Recordkeeping Requirements:

a. Monthly records shall be maintained of the total input of all raw material of the affected facility.

b. A log shall be kept of all emissions observations. Notification in the weekly log shall be made of, but not limited to the following:

(i) Whether any air emissions (except for water vapor) were visible from the plant.

(ii) Whether the visible emissions were normal for the process.

(iii) The cause of any abnormal emissions, and any corrective actions taken.

c. All records, including MSDS for each material used shall be retained at the source for a period of five years.

6. Specific Reporting Requirements:

None

7. Specific Control Equipment Operating Conditions:

The control system shall be operated and maintained in accordance with the manufacturer's specifications and filters shall be in place at all times when the affected facility is in operation. cyclone(s) shall be replaced when determined to be ineffective (through visual inspection).

SECTION C - GENERAL CONDITIONS

1. Administrative Requirements

a. The permittee shall comply with all conditions of this permit. Noncompliance shall be a violation of 401 KAR 52:040, Section 3(1)(b) and is grounds for enforcement action including but not limited to the termination, revocation and reissuance, or revision of this permit.

b. This permit shall remain in effect for a fixed term of ten (10) years following the original date of issue. Permit expiration shall terminate the source's right to operate unless a timely and complete renewal application has been submitted to the Division at least six months prior to the expiration date of the permit. Upon a timely and complete submittal, the authorization to operate within the terms and conditions of this permit, including any permit shield, shall remain in effect beyond the expiration date, until the renewal permit is issued or denied by the Division. [401 KAR 52:040, Section 15]

c. Any condition or portion of this permit which becomes suspended or is ruled invalid as a result of any legal or other action shall not invalidate any other portion or condition of this permit [Section 1a-11 of the *Cabinet Provisions and Procedures for Issuing State-Origin Permits* incorporated by reference in 401 KAR 52:040 Section 23].

d. Pursuant to materials incorporated by reference by 401 KAR 52:040, this permit may be revised, revoked, reopened, reissued, or terminated for cause. The filing of a request by the permittee for any permit revision, revocation, reissuance, or termination, or of a notification of a planned change or anticipated noncompliance shall not stay any permit condition [Section 1a-4, 5, of the *Cabinet Provisions and Procedures for Issuing State-Origin Permits* incorporated by reference in 401 KAR 52:040 Section 23].

e. This permit does not convey property rights or exclusive privileges [Section 1a-8 of the *Cabinet Provisions and Procedures for Issuing State-Origin Permits* incorporated by reference in 401 KAR 52:040 Section 23].

f. Nothing in this permit shall alter or affect the liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance [401 KAR 52:040 Section 11(3)].

g. This permit shall be subject to suspension at any time the permittee fails to pay all fees within 90 days after notification as specified in 401 KAR 50:038, Air emissions fee. The permittee shall submit an annual emissions certification pursuant to 401 KAR 52:040, Section 20.

SECTION C - GENERAL CONDITIONS (CONTINUED)

2. Recordkeeping Requirements

a. Records of all required monitoring data and support information, including calibrations, maintenance records, and original strip chart recordings, and copies of all reports required by the Division for Air Quality, shall be retained by the permittee for a period of at least five years and shall be made available for inspection upon request by any duly authorized representative of the Division for Air Quality [401 KAR 52:040 Section 3(1)(f) and Section 1b-IV-2 of the *Cabinet Provisions and Procedures for Issuing State-Origin Permits* incorporated by reference in 401 KAR 52:040 Section 23].

b. The permittee shall perform compliance certification and recordkeeping sufficient to assure compliance with the terms and conditions of the permit. Documents, including reports, shall be certified by a responsible official pursuant to 401 KAR 52:040, Section 21.

3. Reporting Requirements

a. (1) In accordance with the provisions of 401 KAR 50:055, Section 1, the permittee shall notify the Regional Office listed on the front of this permit concerning startups, shutdowns, or malfunctions as follows:
   i. When emissions during any planned shutdowns and ensuing startups will exceed the standards, notification shall be made no later than three (3) days before the planned shutdown, or immediately following the decision to shut down, if the shutdown is due to events which could not have been foreseen three (3) days before the shutdown.
   ii. When emissions due to malfunctions, unplanned shutdowns and ensuing startups are or may be in excess of the standards, notification shall be made as promptly as possible by telephone (or other electronic media) and shall be submitted in writing upon request.

   (2) The permittee shall promptly report deviations from permit requirements including those attributed to upset conditions (other than emission exceedances covered by Reporting Requirement condition a.(1) above), the probable cause of the deviation, and corrective or preventive measures taken; to the Regional Office listed on the front of this permit within 30 days. Other deviations from permit requirements shall be included in the semiannual report [Section 1b-V-3 of the *Cabinet Provisions and Procedures for Issuing State-Origin Permits* incorporated by reference in 401 KAR 52:040 Section 23].

b. The permittee shall furnish information requested by the Cabinet to determine if cause exists for modifying, revoking and reissuing, or terminating the permit; or to determine compliance with the permit [Section 1a-6 of the *Cabinet Provisions and Procedures for Issuing State-Origin Permits* incorporated by reference in 401 KAR 52:040 Section 23].

c. Summary reports of monitoring required by this permit shall be submitted to the Regional Office listed on the front of this permit at least every six (6) months during the life of this permit. For emission units that were still under construction or which had not commenced operation at the end of the 6-month period covered by the report and are subject to monitoring requirements in this permit, the report shall indicate that no monitoring was performed during the previous six months because the emission unit was not in operation. The summary reports

SECTION C - GENERAL CONDITIONS (CONTINUED)

are due January 30th and July 30th of each year. All deviations from permit requirements shall be clearly identified in the reports. All reports shall be certified by a responsible official pursuant to 401 KAR 52:040, Section 21.

4. Inspections

In accordance with the requirements of 401 KAR 52:040, Section 3(1)(f) the permittee shall allow authorized representatives of the Cabinet to perform the following during reasonable times. Reasonable times are defined as during all hours of operation, during normal office hours; or during an emergency:

a. Enter upon the premises to inspect any facility, equipment (including air pollution control equipment), practice, or operation.

b. To access and copy any records required by the permit.

c. Inspect, at reasonable times, any facilities, equipment (including monitoring and pollution control equipment), practices, or operations required by the permit.

d. Sample or monitor, at reasonable times, substances or parameters to assure compliance with the permit or any applicable requirements.

5. Emergencies/Enforcement Provisions

a. The permittee shall not use as defense in an enforcement action, the contention that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance [Section 1a-3 of the *Cabinet Provisions and Procedures for Issuing State-Origin Permits* incorporated by reference in 401 KAR 52:040 Section 23].

b. An emergency shall constitute an affirmative defense to an action brought for the noncompliance with the technology-based emission limitations if the permittee demonstrates through properly signed contemporaneous operating logs or relevant evidence that:
   (1) An emergency occurred and the permittee can identify the cause of the emergency;
   (2) The permitted facility was at the time being properly operated;
   (3) During an emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and
   (4) The permittee notified the Division as promptly as possible and submitted written notice of the emergency to the Division within two working days after the time when emission limitations were exceeded due to the emergency and included a description of the emergency, steps taken to mitigate emissions, and corrective actions taken.

c. Emergency provisions listed in General Condition 5.b are in addition to any emergency or upset provision contained in an applicable requirement [401 KAR 52:040, Section 22(1)].

d. In an enforcement proceeding, the permittee seeking to establish the occurrence of an emergency shall have the burden of proof. [401 KAR 52:040, Section 22(2)].

SECTION C - GENERAL CONDITIONS (CONTINUED)

6. Compliance

a. Periodic testing or instrumental or non-instrumental monitoring, which may consist of record keeping, shall be performed to the extent necessary to yield reliable data for purposes of demonstration of continuing compliance with the conditions of this permit. For the purpose of demonstration of continuing compliance, the following guidelines shall be followed:
   (1) Pursuant to 401 KAR 50:055, General compliance requirements, Section 2(5), all air pollution control equipment and all pollution control measures proposed by the application in response to which this permit is issued shall be in place, properly maintained, and in operation at any time an affected facility for which the equipment and measures are designed is operated, except as provided by 401 KAR 50:055, Section 1.
   (2) All the air pollution control systems shall be maintained regularly in accordance with good engineering practices and the recommendations of the respective manufacturers. A log shall be kept of all routine and nonroutine maintenance performed on each control device. Daily observations are required during daylight hours of all operations, control equipment and any visible emissions to determine whether conditions appear to be either normal or abnormal. If the operations, controls and/or emissions appear to be abnormal, the permittee must then comply with the requirements of Section C – General Conditions, 3.a.(2), of this permit.
   (3) A log of the monthly raw material consumption and monthly production rates shall be kept available at the facility. Compliance with the emission limits may be demonstrated by computer program, spread sheets, calculations or performance tests as may be specified by the Division [401 KAR 50:055, Section 2].

b. Pursuant to 401 KAR 52:040, Section 19, the permittee shall certify compliance with the terms and conditions contained in this permit by January 30th of each year, by completing and returning a Compliance Certification Form (DEP 7007CC) (or an approved alternative) to the Regional Office listed on the front of this permit in accordance with the following requirements:
   (1) Identification of the term or condition;
   (2) Compliance status of each term or condition of the permit;
   (3) Whether compliance was continuous or intermittent;
   (4) The method used for determining the compliance status for the source, currently and over the reporting period, and
   (5) For an emissions unit that was still under construction or which has not commenced operation at the end of the 12-month period covered by the annual compliance certification, the permittee shall indicate that the unit is under construction and that compliance with any applicable requirements will be demonstrated within the timeframes specified in the permit.

SECTION C - GENERAL CONDITIONS (CONTINUED)

(6) The certification shall be postmarked by January 30th of each year. Annual compliance certifications shall be mailed to the following addresses:

Division for Air Quality
Paducah Regional Office
130 Eagle Nest Drive
Paducah, KY 42003

Division for Air Quality
Central Files
200 Fair Oaks Lane, 1st Floor
Frankfort, KY 40601

c. Permit Shield - A permit shield shall not protect the owner or operator from enforcement actions for violating an applicable requirement prior to or at the time of permit issuance. Compliance with the conditions of this permit shall be considered compliance with all:
(1) Applicable requirements that are included and specifically identified in this permit; or
(2) Non-applicable requirements expressly identified in this permit [401 KAR 52:040, Section 11].

7. Construction Requirements:
None

SECTION D - INSIGNIFICANT ACTIVITIES

The following listed activities have been determined to be insignificant activities for this source pursuant to 401 KAR 52:040, Section 6. Although these activities are designated as insignificant the permittee must comply with the applicable regulation. Process and emission control equipment at each insignificant activity subject to an opacity standard shall be inspected monthly and a qualitative visible emissions evaluation made. Results of the inspection, evaluation, and any corrective action shall be recorded in a log.

	Description	Generally Applicable Regulation
1.	**EP 02:** Two (2) Injection Molders Maximum Usage: 98 lbs/hr Polyamaide 66 Construction Date: June 1999	401 KAR 59:010
2.	**EP 03:** Powder Coat System PUM-3394 Eggshell Maximum Usage: 1.80 lbs/hr PUM-2574 Maximum Usage: 2.30 lbs/hr Construction Date: February 2003	401 KAR 59:010
3.	**EP 08:** Four (4) Air Make-Up Units and Four (4) Space Heaters Total Maximum Rated Capacity: 17.0 MMBtu/hr	NA
4.	**EP 19:** Core Brazing Oven Maximum Rated Capacity: 0.0094 MMBtu/hr Construction Date: May 2005	NA
5.	**EP21:** 4-TIG Welding Robots Tungsten Maximum usage rate: 0.066 lb/hr Control Device: Fabric Filter with 90% Efficiency Construction Date: May 2005	401 KAR 59:010
6.	**EP22:** 3-MIG Welding Robots WEL MIG309Lsi usage rate: 5.1 lbs/hr Control Device: Fabric Filter with 90% Efficiency Construction Date: May 2005	401 KAR 59:010
7.	**EP23:** Electric Vacuum Furnace 1 Punch oil FS-T2 Maximum usage rate: 0.06 gal/hr Construction Date: July 2006	NA
8.	**EP24:** Electric Vacuum Furnace 2 Punch oil FS-T2 Maximum usage rate: 0.06 gal/hr Construction Date: July 2006	NA

SECTION D - INSIGNIFICANT ACTIVITIES (CONTINUED)

9.	**EP26:** Ink Jet Printer I-252 Ink Maximum usage rate: 0.0633 lb/hr WL-200 Cleaner Maximum usage rate: 0.0589 lb/hr I-252 Ink Maximum Operating usage rate: 0.0581 lb/hr Construction Date: August 2005	401 KAR 59:010 401 KAR 63:020
10.	**EP27:** Spray Paint Touch-Up Maximum usage rate: 1.28 gals/day Construction Date: January 2009	401 KAR 59:010 401 KAR 63:020